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AUGUST 1984

Bayou 99 Users Group, P.O. Box 921, Lake Charles, La. 70602

# BAYOU BYTE



Price One Dollar

Distribution: 150 copies

## MEETING NOTICE

The August meeting of the Bayou 99 Users' Group will be at 7:00 P.M. August 9th at the Nelson Elementary School. Anyone interested in learning to use the capabilities of the 99/4A is invited.

## COMMERCIAL BREAK

If the mailing label on your copy of the Bayou Byte has a red check mark, it is time to renew your membership. The dues are still \$12.00 for a family membership and may be paid at the next meeting, given to one of the officers or mailed to:

Bayou 99 Users' Group  
P. O. Box 921  
Lake Charles, LA 70602

Please get your check in promptly and avoid any possible interruption in delivery of the Newsletter. Check your mailing label carefully. A solid orange mailing label indicates your membership has expired and your name will be removed from the mailing list.

Robert Nordan, Jr., Treasurer

## MEETING MINUTES

Our July meeting was again held in the school library since the cafeteria renovations were still in progress.

The new Super Assembly Language Debugger was reviewed briefly. As the members working with Assembly Language programming gain familiarity with this new software, it will be reviewed further.

A short tutorial on BASIC and some of the differences between BASIC and Extended BASIC was given by Richard Mitchell.

New third-party software and hardware was also discussed. Robert Nordan discussed the new expansion system and extended memory being marketed by Myarc. Door prizes given away included three game cassette tapes and a cassette tape file.

A "Best Enhancement" competition was started with programs from the library. Several members received a program for their entry in the competition.

## LIBRARY COMMITTEE REPORT

The library contains some very good programs that lack certain features which could make them even better. Several of these programs were available at our July meeting and were given to the members to add improvements. A prize will be awarded for the "Best Enhancement."

Changes suggested were to include a number of enhancements which could be good programming practices for any program. Some suggested enhancements were; (1) include complete instructions with an option for the user to skip over the instructions, (2) an option for either joystick or keyboard control, (3) a choice of rerunning or ending the program, (4) and graphic title screen displays. One program selected for rewrite was too long and did not contain instructions; in this case, the program could be condensed or a separate program for the instructions could be written to be run ahead of the main program.

Other programs will be selected for enhancement competition, with appropriate prizes for excellence.

The Library Catalog has been delayed in order to include the programs donated by Jim Peterson. These programs are rich in techniques for programming graphics and sound. The musicians in our group should be sure to get several of the tapes for improving the tone qualities of computer music. A section is being added to the catalog to include the titles purchased by the 999UG to take advantage of volume discounts. These titles will be listed separately. Since quantities are limited, these selections are available on a first come basis.

## SMALL PACKAGES

Texas Instruments has come up with another surprise package. A diskette has been mailed to the Users' Groups which contains some enhancements for the TI-Writer and Multiplan users. Multiplan users have been very pleased with the capabilities of the spread sheet and have used it for everything from Budgets to Decision Trees with a family tree and a game or two in their spread sheet files. But, when the number of cells used start to build up, it gets to be SLOW. We always use the option to delay the calculation to the very last step possible so the news that it has been speeded-up a little is welcome news indeed. No quantitative measure of the increase in speed is available, but any amount will help. Another complaint has been the cursor manipulation. One key depressed, one square moved, press the key again, another square moved. The new files have also added auto-repeat for the cursor keys which will speed-up your travels around the spread sheet, in particular, your column-to-column moves will be much quicker.

You TI-Writer users -- can you imagine how far all the cuss words over those damn form feeds would extend if laid end-to-end? The TI-Writer enhancement eliminates the form feed while using the Formatter and provide true lower case letters on the screen. They have also included files which allow you to use RS232 printer defaults of either RS232.BA=1200.LF or RS232.BA=4800.LF.

In addition to the TI-Writer and Multiplan enhancements, two disks were received which contain that portion of TI-FORTH written in assembler. Part 1 is the dictionary entry for the approximately 250 primitives present when FORTH is booted. Part 2 is the code for the I/O system and support for FORTH. It contains the disk and screen I/O, the allocation of user available space, stacks, etc. Also, on Part 2 is a program called BOOT. When using the Assembler Source Code and the Driver (Part 2) FORTH can be made to save an image of itself to the VDP RAM and write this image on disk as a program file. BOOT is used to read this image and reconstruct the FORTH system from the image.

#### EDITOR'S COLUMN

At the last meeting of the B99UG, we were informed of the outcome of the International 99/4A Users Group's suit with the 99/4A Program Exchange. This suit was based on claims by the I.U.G. that copyright statutes were violated by the Torrance, CA 99/4A Program Exchange. The suit was settled without a ruling from the courts and so the claims of the I.U.G. with regard to copyright ownership were not established. However, the 99/4A Program Exchange evidently thought the I.U.G. had a good case since it has been reported they agreed to "cease and desist" and pay a five figure settlement sum.

Since that bit of news another development has taken place. A letter from the I.U.G., signed by their president, Charles LaFara, has been sent to the Atlanta 99/4A Computer Users Group alleging the A9CUG has violated federal copyright statutes. This letter was published in the A9CUG's newsletter along with their reply requesting copies of the copyrights held by the I.U.G. that the A9CUG has infringed upon.

It is interesting to note that Mr. LaFara's letter referred to the charges made against the Torrance 99/4A Program Exchange as having "stemmed from the publication of the Program Exchange's Software Catalog." Also, the allegations against the A9CUG are a result of the listings in the A9CUG Software Library Catalog. Mr. LaFara referred to a copy of the Software Exchange Catalog which he had enclosed with the programs "clearly marked" which were listed in violation of federal copyright statutes.

It would seem that User Groups have two choices. One -- don't publish a catalog, or two -- don't use titles or program descriptions that appear in the I.U.G. program catalog.

I have publicly stated my position in support of the copyrights held by the authors, publishers and developers of software. These companies and individuals deserve protection from the theft of a product developed through hard labor and often considerable expense. Publishers of software programs, who, having rewarded a contributor with recognition and hopefully, a few bucks, may also claim copyright protection; however, the I.U.G. copyright covers the program numbers and descriptions published in their catalog, not the program. The program copyright is the property of the original author or translator as stated in the I.U.G. software catalog.

Certain popular titles have also been copyrighted by others; e.g. Munch Man, Star Wars, ET, etc. (including TI and other trademarks used in titles).

It would seem to me that the User Groups would collectively offer a better deal than the "four programs of your choice" offered by the I.U.G. If the User Groups published the names and descriptions of member written programs in their libraries with an appropriate price of three or four dollars, including media and shipping, the receipts could be divided between the author and his parent UG while the buyer received an unlimited license to reproduce and distribute the program. Such an agreement could be established among the signators of a simple statement of agreement.

Since this Newsletter is exchanged with a number of other User Groups, I would appreciate hearing from these Groups either directly or through comment in their Newsletters.

#### LAGNIAPPE

- \* Publishers of the Home Computer Magazine have announced that beginning with the September issue, the magazine would no longer carry outside advertising. Better reader comprehension as well as an attractive unified appearance was given as reasons. Subscribers are to receive a separate Digest with mail-order advertising and limited editorial material.
- \* The Library has received a few Editor/Assemblers. The Editor/Assembler provides access to all the features of the 99/4A and requires 32K memory expansion, disk drive and controller.
- \* A recent check on Extended BASIC has found this item to be in extremely short supply. This cartridge is essential to serious 99/4A users. Persons who plan on acquiring Extended BASIC (everyone should - Ed.) should contact the Education Committee Chairman, Steve Manuel.
- \* John T. Dow has offered quantity discounts for User Groups on the Gazelle flight simulation program the Dow Editor/Assembler (for MiniMemory Users) and the Assembly Language Primer. Orders must total \$100 or more, but any combination of products may be included in the order.
- \* The B99UG has reviewed King of the Castle from Cydex Software on disk and cassette tape. In King of the Castle you defend a two-story castle with stairways and a secret passage against hordes of invaders. Scoring is by points awarded for each invader destroyed and damage points assessed for each contact with an invader. The game is written in TI9900 Assembly Code, has eight levels of difficulty, and requires the MiniMemory, joysticks, and either a disk drive or cassette recorder, OR disk drive, joysticks, 32K Memory Expansion, and either the Editor/Assembler or Extended BASIC cartridges. A license agreement with Cydex allows the Library to reproduce and distribute King of the Castle to members of our Users Group.

- \* A sketch pad video graphics package called Super Sketch is now available. The package allows the user to reproduce the movement of a stylus on the screen and add color with the push of a button. The producers claim the product does more than joysticks, paddle and mouse controllers and is less expensive than touch pad products. Super Sketch is priced at \$64.00 including tax and shipping.
- \* Two new Users Groups have been added to the list exchanging Newsletters with the B99UG. The Aloha 99/4 Computer Users' Group and the Milwaukee Area 99/4 Users' Group join the: Atlanta 99/4A Computer Users' Group, Atlanta, GA; Arizona 99 Users' Group, Phoenix, AZ; San Gabriel Valley 99/4 Users' Group, West Covina, CA; Chattanooga TI-99/4A Users' Group, Chattanooga, TN; Kentuckiana 99/4 Computer Society, Louisville, KY; Mid/America 99/4 Users' Group, Shawnee Mission, KA; Brevard Users' Group, Palm Bay, FL and Edmonton Users' Group, Edmonton, Alberta, Canada.
- \* From the San Gabriel Valley U.G.'s "PRINTOUT", results of a recent study by the Gartner Group ranks TI 20th in data processing revenues compared to Commodore's 13th, Radio Shack's 14th, Apple's 11th, and IBM's 1st. The 739 million dollars is an impressive sum.
- \* A tip for you game programmers from the Arizona 99 UG's TI Home Computer Newsletter. When only one joystick is to be used, include these program steps in your next program and all you do is push the Fire Button on either joystick and the computer will then remember which joystick will be used.

```

100 CALL KEY(1,J1,STATUS)
110 CALL KEY(2,J2,STATUS)
120 IF J1+J2<>17 THEN 100
130 JS=INT(J1/18 + J2/9 + 1)

```

With these steps in your program prior to the use of CALL JOYST(JS, J, STATUS), the computer will respond to whichever joystick you were using when you pressed the Fire Button.

- \* Also, from the Arizona 99 UG, is this interesting item. At the Comdex Show in Las Vegas, an Apple was demonstrating a new board called the Arcade Board. It plugs into the Apple. It has excellent graphics and sells for \$400.00. It was called the supreme board for Apple graphics. The Board uses a TMS 9918A VDP chip. This is the same chip that is used in the 99/4A. The Apple can with this plug in board display sprites just like we have been doing with our TI-99/4A's and the board sells for about 4 times the present price of the 99/4A Home Computer.
- \* The Aloha 99/4A Computer Users' Group Newsletter printed an advertisement for a Terminal Emulator program marketed by Softmail, Inc., Lancaster, TX. The disk based program called TE 1200 gives the 99/4A the capability of transmitting data through an RS232 interface at 1200 baud.

NOTICE

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Members are urged to patronize the firms whose advertisements appear in our Newsletter. All ads published have been paid by cash or services.

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PRINTER'S - part 2

R. N. Hickerson

This article which started in last month's issue of the Bayou Byte was written to show some of the techniques available when writing programs for operation of a printer. A Purchase Order form was selected to demonstrate the capabilities of the TI Printer and similar printers such as the Epson and others. Only slight modifications would be required to revise the program to print Invoices, Statements, etc.

This month we continue our program with Line 530.

- Line 530 - Requests a number entered from the keyboard. Entry may include letters and/or numbers.
- Line 550 - Tabs over to the fourth tab set in Line 480. Changes to enlarged type and prints the number requested in Line 530.
- Line 570 - Changes to emphasized printing and prints the name and address of our fictitious business.
- Line 620 - Changes back to large print and prints "PURCHASE ORDER". Note the use of the Tab function since none of the present column positions were appropriately positioned.
- Line 630 - Returns the printer to normal print size.
- Line 650 - Input from the keyboard is requested to be printed on the form.  
to Note the method used to be sure the entry will exactly fill the
- Line 1030 - space available for each of the six entries. This technique eliminates the need for tabs to space the information to be printed on the form.
- Line 1040 - DLINE\$ is defined as a dashed line for underscoring.
- Line 1050 - Prints TO, Company Name, Ship To, and Company Name.
- Line 1060 - Changes line feed to 1/72nd inch.
- Line 1070 - Underscores the previous line. Note the TI Printer does not support an automatic underscore as do the Epson, Gemini, Olivetti and others.
- Line 1080 - Restores the line feeds to 1/6th inch (12/72 inch).
- Line 1090 - Prints and underlines the address information imprinted earlier.  
to
- Line 1160 -
- Line 1170 - Another row of # characters.
- Line 1190 - Inputs for headings to be printed next. These headings will be  
to printed with condensed size print.
- Line 1240 -

```

100 X$=CHR$(27)
110 REM ESCAPE CODE
120 C$=CHR$(15)
130 REM COMPRESSED CHARACTERS
140 CX$=CHR$(18)
150 REM COMPRESSED OFF
160 L$=CHR$(14)
170 REM LARGE CHARACTERS
180 LX$=CHR$(20)
190 REM LARGE OFF
200 EM$=CHR$(69)
210 REM EMPHASIZED CHARACTERS
220 MX$=CHR$(70)
230 REM EMPHASIZED OFF
240 D$=CHR$(71)
250 REM DOUBLE WIDTH
260 DX$=CHR$(72)
270 REM DOUBLE WIDTH OFF
280 CALL CLEAR
290 REM *****
300 REM * BY ROGER HICKERSON *
310 REM * LAKE CHARLES. LA *
320 REM * FOR THE *
330 REM * BAYOU 99 *
340 REM * USERS GROUP *
350 REM *****
360 PRINT TAB(4);"BASIC FORM GENERATOR":
: : : : : :
370 PRINT "PRESS ANY KEY TO CONTINUE."
380 CALL KEY(O,K,S)
390 IF S=0 THEN 380
400 CALL CLEAR
410 PRINT "TURN ON YOUR PRINTER THEN E
NTER THE DEVICENAME FOR YOUR PRINTER.
": : : : :
420 PRINT : : : : : "FOR EXAMPLE: RS232
.BA=1200 OR PIO.": : : : "THE PRINTER'S
FILE NUMBER IS -1- ."
430 S$="*****
*****
*****"
440 INPUT DEVICE$
450 OPEN #1:DEVICE$&".CR"
460 CALL CLEAR
470 PRINT #1:X$;"Q";CHR$(80)
480 PRINT #1:X$;"D";CHR$(5);CHR$(10);CHR
$(15);CHR$(20);CHR$(40);CHR$(60);CHR$(68
);CHR$(75);CHR$(0)
490 CR$=CHR$(13)&CHR$(10)
500 T$=CHR$(9)
510 PRINT #1:CR$;S$;CR$
520 PRINT #1:X$;"C";CHR$(66);T$;T$;
530 PRINT "INPUT PURCHASE ORDER NO. "
540 INPUT L1$
550 PRINT #1:T$;T$;T$;T$;X$;L$;"NO. ";L1
$;CR$

560 CALL CLEAR
570 PRINT #1:X$;EM$
580 PRINT #1:TAB(30);" H&R INDUSTRIES. I
NC. ";CR$
590 PRINT #1:TAB(30);"5000 W.CENTERLINE
AVE. ";CR$
600 PRINT #1:TAB(31);"ANYTOWN. USA 100
05";CR$;CR$
610 REM *** PRINT HEADING ***
620 PRINT #1:TAB(26);X$;L$;"PURCHASE ORD
ER";CR$;CR$;CR$
630 PRINT #1:X$;MX$;
640 CALL CLEAR
650 PRINT "ENTER FROM WHOM ORDERED L
IMIT INPUT TO 27 CHARACTERS OR LESS."
660 INPUT L1$
670 IF LEN(L1$)<27 THEN 680 ELSE 700
680 L1$=L1$&" "
690 GOTO 670

```

```

700 IF LEN(L1$)<28 THEN 730
710 PRINT "LINE TOO LONG LIMIT IS ONLY
27 CHARACTERS."
720 GOTO 650
730 PRINT "ENTER STREET ADDRESS."
740 INPUT L2$
750 IF LEN(L2$)<27 THEN 760 ELSE 780
760 L2$=L2$&" "
770 GOTO 750
780 IF LEN(L2$)<28 THEN 810
790 PRINT "LINE TOO LONG LIMIT IS ONLY
27 CHARACTERS."
800 GOTO 730
810 PRINT "ENTER CITY, STATE, & ZIP."
820 INPUT L3$
830 IF LEN(L3$)<27 THEN 840 ELSE 860
840 L3$=L3$&" "
850 GOTO 830
860 IF LEN(L3$)<28 THEN 890
870 PRINT "LINE TOO LONG LIMIT IS ONLY
27 CHARACTERS."
880 GOTO 810
890 PRINT "ENTER SHIP TO "
900 INPUT L4$
910 IF LEN(L4$)<28 THEN 940
920 PRINT "LINE TOO LONG LIMIT IS ONLY
27 CHARACTERS."
930 GOTO 890
940 PRINT "ENTER STREET ADDRESS."
950 INPUT L5$
960 IF LEN(L5$)<28 THEN 990
970 PRINT "LINE TOO LONG LIMIT IS ONLY
27 CHARACTERS."
980 GOTO 940
990 PRINT "ENTER CITY, STATE, & ZIP."
1000 INPUT L6$
1010 IF LEN(L6$)<28 THEN 1040
1020 PRINT "LINE TOO LONG LIMIT IS ONLY
27 CHARACTERS."
1030 GOTO 990

1040 DLINE$="-----
"
-----
1050 PRINT #1:T$;"TO ";L1$;" SHIP )
0 ";L4$
1060 PRINT #1:X$;"A";CHR$(1);CR$
1070 PRINT #1:T$;DLINE$;" ";DLINE$
1080 PRINT #1:X$;"A";CHR$(12);CR$;CR$
1090 PRINT #1:T$;"ADDRESS ";L2$;" ADDR$
S ";L5$
1100 PRINT #1:X$;"A";CHR$(1);CR$
1110 PRINT #1:T$;DLINE$;" ";DLINE$
1120 PRINT #1:X$;"A";CHR$(12);CR$;CR$
1130 PRINT #1:T$;"CITY ";L3$;" CITY
";L6$
1140 PRINT #1:X$;"A";CHR$(1);CR$
1150 PRINT #1:T$;DLINE$;" ";DLINE$;CR$
1160 PRINT #1:X$;"A";CHR$(12);CR$
1170 PRINT #1:CR$;S$
1190 INPUT "ENTER REQ.NO.(7 CHARACTERS
MAX.) ";L1$
1200 INPUT "ENTER DATE REQ'D.( 8 CHARACT
ERS MAX.) ";L2$
1210 INPUT "ENTER TERMS (10 CHARACTERS M
AX.) ";L3$
1220 INPUT "ENTER SHIP VIA (10 CHARACTER
S MAX.) ";L4$
1230 INPUT "ENTER CHARGE NO. (10 CHARACT
ERS MAX.) ";L5$
1240 INPUT "ENTER P.O. DATE ( 9 CHARACTE
RS MAX.) ";L6$

```

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Above is the printout produced by the partial printer program in the Printer's - Part 2 article in this issue.

PRESIDENT'S LETTER

Like any successful organization, the Bayou 99 Users' Group's success is proportional to the contributions of its members. Our Group has enjoyed the labors and talents of a number of members who have worked hard to make our Group a success. However, more help is needed to shift some of the load and to gather new energies and ideas.

There is a place for everyone, regardless of experience with any phases of computing. Help is badly needed in all our committees and for the staff of the Bayou Byte. In addition our plans for a terminal operation requires a volunteer terminal operator.

Please make known your choices for helping the Group on the Program Education, Library, Recruiting or Equipment Committees, the Newsletter Staff or any of the other User Group activities or special interest groups (SIGs). If the number of volunteers is not sufficient, individuals will be assigned where the need is greatest.

R. N. Hickerson

Originally Published in May 1984

RANDOM ACCESS  
by Larry Hughes  
QUALITY 99 SOFTWARE

"Hey! Where's the K? What happened to my 48K!". That's what a friend said to me the other day when he first plugged in his new expansion system with a disk drive and the 32K RAM. Using Extended BASIC, he had typed in the SIZE command and gotten the message:

```
11840 BYTES OF STACK FREE
24488 BYTES OF PROGRAM
SPACE FREE
```

"That only adds up to 36328!", he said. "Where's the other 12K?"

"Well,", I told him, "I have good news for you and bad news for you. The good news is that you really do have 48K RAM in there. The bad news is that you can't use all of it!"

First I explained to him that an 8K portion of the 32K RAM is reserved exclusively for Assembly Language programs. Thus, only 24K of the 32K RAM can be used by an Extended BASIC program. He said, "OK, but that should leave 40K and I only have 36328. Where's the other 4K?"

I explained that 2K of the 16K in the console is always used by the system.

Then I told him that the disk controller automatically reserves 2K for three disk file buffers, but that he could free up 1K of that space by telling the system that he only wanted one disk file buffer. So he entered the commands:

```
CALL FILES(1)
NEW
```

```
When he typed SIZE again, he got:
12876 BYTES OF STACK FREE
24488 BYTES OF PROGRAM
SPACE FREE
```

"Hooray!", he said, "Now I have a total of 37364 bytes to play with. Can I increase it still more by specifying zero disk buffers?", he asked.

(continued next month)

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Phone (      ) \_\_\_\_\_

Signature \_\_\_\_\_

RANDOM ACCESS  
by Larry Hughes  
QUALITY 99 SOFTWARE

(continued from last month)

First of all, CALL FILES(0) is not a legal command (the number of files must be from 1 to 9). You could turn everything off, wait 5 minutes, disconnect the disk controller, turn everything back on and then you would get:

13928 ...  
24488 ...

for a total of 38416 bytes, which is the absolute maximum that you can ever have. However, now you don't have the disk drive anymore and therefore programs must be loaded and saved to tape. Unfortunately, the maximum length program that can be stored on tape is only 12K, so that method really doesn't help you much at all.

"So the absolute maximum size of a program with one disk buffer is 37364. That's a long way from the 48K that I thought I had.", he complained. "Don't be too upset.", I replied. "The "64K" Commodore 64 only has 37K available to a BASIC program, and the "80K" Adam computer only has 26K usable! So actually, the "48K" TI has as much space available as the "64K" Commodore 64 does and more than the "80K" Adam does!"

"Why does the SIZE command give two different numbers and not just the total? What is the stack? What is the difference between the stack and program space?", he asked. (My friend is very inquisitive).

As mentioned earlier, the 37K of usable RAM is actually split into two separate parts. 24K is in the 32K card, and 13K is in the console. TI, in their wisdom, decided that only an Extended BASIC program and its numeric variables could reside in the 24K portion, and that only string variables could reside in the console portion. Thus the 24K is called the "program space" and the 13K is called the "stack", (a programmer's term for the area of memory that is reserved for string variables).

(to be continued)

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"Great!"

"Excellent!"

"I'm very impressed."

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THESE TIPS MAY BE REPRINTED BY ANYONE, WITH CREDIT TO TIGERCUB SOFTWARE. IF YOU PUBLISH A NEWSLETTER, PLEASE DO PUT ME ON YOUR MAILING LIST. MANY THANKS TO THE EDITORS WHO HAVE MENTIONED MY KITCHEN TABLE ENTERPRISE.

LAST MONTH'S CHALLENGE WAS TO WRITE THE EXTENDED BASIC STATEMENT IF X=1 THEN Y=7 ELSE IF X=2 THEN Y=33 ELSE IF X=3 THEN Y=19 ELSE IF X=4 THEN Y=21, IN JUST ONE LINE OF BASIC. THAT DIDN'T SEEM TO STIR UP MUCH INTEREST BUT ANYWAY, HERE'S MY SOLUTION -  
Y=VAL(SEG\$( "07331921",X\*2-1,2))  
YOU CAN EVEN PUT THAT IN A DEF AND THEN USE Y REPEATEDLY WITHOUT FURTHER DEFINING IT. DON'T BE PUTTING TI BASIC DOWN - IT'S POWERFUL STUFF!

SO HERE'S THE CHALLENGE FOR THIS MONTH. CAN YOU WRITE A PROGRAM IN TWO LINES OF BASIC, OR ONE LINE OF EXTENDED BASIC, TO COMPOSE AND PLAY RANDOM MUSIC IN 2-PART HARMONY IN THE KEY OF C? I'M NOT TALKING ABOUT JUST ANY OLD RANDOM FREQUENCIES, I WANT RANDOM MUSIC COMPOSED OF PAIRS OF NOTES THAT BELONG TOGETHER IN CHORDS OF THE KEY OF C! IF YOU FIGURE IT OUT, WRITE ME OR GIVE ME A CALL.

LAST MONTH WE PASSED ON DUANE FISCHER'S TIP THAT T1-99/4A CONSOLES WHICH DISPLAY V2.2 INSTEAD OF 1981 ON THE TITLE SCREEN WILL NOT RUN 3RD PARTY COMMAND MODULES.

IT IS NOW REPORTED THAT THE WHITE MODULES WITH 1983 ON THE TITLE SCREEN WILL GIVE THE SAME PROBLEM.

IF YOU HAVE SET UP YOUR EQUIPMENT, TRIED TO LOAD A PROGRAM, AND THE SCREEN PRINTS OUT "2LD CS1" OR SOMETHING ELSE GOOFY, DON'T PANIC - JUST UNPLUG THE CASSETTE INTERFACE CABLE FROM THE JOYSTICK PORT AND PLUG IT IN WHERE IT BELONGS!

DID YOU EVER ABSENTMINDEDLY TYPE SAVE CS1 INSTEAD OF OLD CS1, PUSH RECORD, AND NOT REALIZE IT UNTIL YOU HAD ERASED A PROGRAM FROM YOUR CASSETTE? DID YOU KNOW THAT THE CASSETTE HAS TWO TABS ON THE BACK EDGE THAT CAN BE REMOVED TO KEEP THAT FROM HAPPENING? JUST SLIP THE TIP OF A KNIFE BLADE UNDER THEM, AND PRY UP TO SNAP THEM OFF. EACH SIDE OF THE CASSETTE IS PROTECTED BY THE TAB ON ITS BACK LEFT EDGE; WHEN THE TAB IS REMOVED, THE RECORDER'S RECORD BUTTON CAN'T BE PUSHED DOWN. LATER ON, IF YOU DO WANT TO RECORD OVER THAT SIDE, JUST PUT A BIT OF SCOTCH TAPE OVER THE HOLE.

ACCORDING TO MICHAEL A. COYINGTON IN COMPUTE! OF DECEMBER '83, IF YOU ARE USING A BLACK&WHITE TV FOR A MONITOR YOU CAN GET A SHARPER SCREEN BY STARTING YOUR PROGRAM WITH A LINE 1 CALL SCREEN(15).

```
100 REM DOLLARS.& CENTS PRIN
TER DEVELOPED FROM A MICROSO
FT ONE-LINER BY CHUCK EMERSON-
HENRY IN COMPUTE! 2/84
110 REM TO GENERATE PRICES T
O DEMONSTRATE
120 A=INT(10*RND)+.1*INT(5*R
ND)
130 REM ONE-LINER TO PRINT
140 PRINT "$"&SEG$(STR$(A+.0
01),1,LEN(STR$(A+.001))-1)
150 GOTO 120
```

```
100 IWHERE DID THIS COME FROM?
110 FOR CH=24 TO 30 :: CALL
HCHAR(1,1,CH,768):: CALL COL
OR(0.5,11):: NEXT CH :: GOTO
110
```

ASCII CODES 1 THROUGH 31 CAN BE PLACED ON THE SCREEN BY CALL HCHAR OR CALL VCHAR. ASCII 30 IS THE CURSOR, WHICH PRINTS OUT AS THAT BLACK SQUARE. THE OTHERS DO NOT REPRESENT A CHARACTER, CANNOT BE REDEFINED, AND ARE MOSTLY BLANK, BUT ASCII CODES 24 THROUGH 27 OFTEN CONTAIN ODD BITS OF GRAPHICS. ASCII CODES 1 THROUGH 23 ARE ALWAYS TRANSPARENT. CODES 24 THROUGH 31 ARE IN CHARACTER SET 0 WHICH IS NORMALLY TRANSPARENT, BUT IF YOU ARE IN EXTENDED BASIC IT CAN BE COLORED.

SOME OF THE BOOKS OF TI PROGRAMS ARE FULL OF STUFF THAT IS NOT WORTH KEYING IN, BUT THERE IS AT LEAST ONE GOOD ONE, CALLED TERRIFIC GAMES FOR THE TI-99/4A, BY HAL RENKO AND SAM EDWARDS - PROGRAMMED IN THE NETHERLANDS, PUBLISHED IN GREAT BRITAIN AND PRINTED IN FINLAND! YOUR BOOKSTORE PROBABLY WON'T HAVE IT ON THE SHELF, BUT CAN ORDER IT FOR YOU AT HALF THE COST OF MOST BOOKS. THE PUBLISHER IS ADDISON-WESLEY, 1983.

IF YOU ARE MAKING A BACKUP DISK AND YOU ACCIDENTALLY INITIALIZE THE MASTER INSTEAD OF THE COPY DISK, YOU WILL LOSE THE DATA ON THE MASTER. IF YOU KEY IN A PROGRAM, TRY TO SAVE IT TO A DISK, AND FIND THAT NOT ENOUGH SECTORS ARE AVAILABLE, YOU HAD BETTER HAVE ANOTHER INITIALIZED DISK OR A CASSETTE RECORDER AVAILABLE. THE SOLUTION TO BOTH PROBLEMS - WHEN YOU BUY A PACKAGE OF DISKS, INITIALIZE THEM ALL RIGHT AWAY! AND WATCH TO MAKE SURE THAT THEY DON'T HAVE ANY BAD SECTORS.

HERE IS A HANDY DEBUGGING ROUTINE. RIGHT AFTER THE FIRST CALL CLEAR, PUT IN THESE TEMPORARY LINES:

```
101 FOR @=1 TO 4
102 CALL COLOR(@,16,1)
103 NEXT @
104 GOTO 104
```

THEN TYPE LIST. AS SOON AS THE FIRST LINES HAVE SCROLLED TO THE TOP OF THE SCREEN, STOP THE LIST WITH FCTN 4. TYPE RUN. ALL THE NUMBERS AND PUNCTUATION WILL TURN WHITE. CHECK FOR 1'S INSTEAD OF I'S AND 0'S INSTEAD OF O'S AND VICE VERSA, EQUAL NUMBERS OF OPENING AND CLOSING PARENTHESES, MISPLACED COMMAS, ETC. THEN BREAK WITH FCTN 4, LIST (THE LAST LINE ON THE SCREEN) AND HYPHEN, ENTER, STOP ;?

IN BASIC, YOU CAN PROGRAM 100 PRINT "HELLO":::::"GOODBYE" TO SCROLL BETWEEN LINES OF PRINT. IN EXTENDED BASIC, THE DOUBLE COLON :: IS USED TO SEPARATE MULTIPLE STATEMENTS. WHEN YOU LOAD A BASIC PROGRAM IN EXTENDED BASIC, YOU WILL USUALLY FIND THAT THE COMPUTER WILL REARRANGE THE COLONS "HELLO" : : : "GOODBYE" AND RUN THE PROGRAM PROPERLY. BUT SOMETIMES, ESPECIALLY IF YOU PUT COLONS IN FRONT, AS PRINT : : : "HELLO", THE COMPUTER MAY BECOME CONFUSED AND GIVE YOU SOME VERY PUZZLING ERROR MESSAGES. ON RARE OCCASIONS IT MAY EVEN REARRANGE THE COLONS INTO STRINGS OF DOUBLE SETS :: :: :: AND THAT WILL LOCK IT UP COMPLETELY. SO, EVEN WHEN PROGRAMMING IN BASIC IT IS A GOOD IDEA TO SEPARATE YOUR MULTIPLE COLONS : : : - OR TO BE ABSOLUTELY SAFE, PUT A NUL-STRING :@: between them.

YES, TI BASIC WILL LET YOU USE @ IN A VARIABLE NAME. I NEVER USE IT IN A PROGRAM, BUT I DO TRY TO REMEMBER TO USE IT IN TEMPORARY DEBUGGING LINES, IN UTILITY ROUTINES WHICH I WILL SAVE TO MERGE OR TO BUILD PROGRAMS AROUND, IN MODIFYING OTHER PEOPLE'S PROGRAMS, ETC. THAT WAY, I DON'T BREED NEW BUGS BY DUPLICATING A VARIABLE NAME THAT IS ALREADY IN THE PROGRAM.

STOP THE PRESS! I HAVE JUST RECEIVED A REVIEW COPY OF A NEW BOOK CALLED THE TI-99/4A IN BITS & BYTES

BY RENO A. LORETO .

THIS ONE IS WORTH THE MONEY! IT IS A THICK BOOK OF 142 BIG PAGES. THE FIRST 20 PAGES ARE FILLED WITH EXPLANATIONS OF PROGRAMMING STATEMENTS AND METHODS, WITH EXAMPLES. THE REST OF THE BOOK CONTAINS 50 PROGRAMS FOR YOU TO KEY IN, AND AT AN AVERAGE OF WELL OVER 2 PAGES PER PROGRAM THESE ARE DEFINITELY NOT MERELY SHORT ROUTINES. THERE IS A WIDE VARIETY OF GAMES, EDUCATION AND UTILITY PROGRAMS, ALL ORIGINAL, WRITTEN BY MR. LORETO'S ASSOCIATES. I HAVE NOT HAD TIME YET TO KEY ANY OF THEM IN, BUT HAVE PREVIOUSLY SEEN A FEW OF THEM RUN, AND THEY WERE GOOD! THE PROGRAMS ARE REPRODUCED FROM LISTINGS, FOR ACCURACY, AND LISTED IN LARGE PRINT IN 28-COLUMN FORMAT FOR EASY COPYING - DON'T YOU WISH EVERYONE DID THAT?

YOU CAN ORDER THIS BOOK THROUGH TIGERCUB SOFTWARE FOR \$14.99, POSTPAID.

OUT OF MEMORY IN LINE 5000, so

HAPPY HACKIN'

JIM PETERSON

Memory Maps  
By Richard Mitchell

For those of you who missed the last meeting, we had a lot of fun discussing how BASIC differs from Extended BASIC, starting with the simpler aspects and then going into some detailed discussions of memory maps.

Due to personal responsibilities, at the last minute I had to plan a discussion that would allow me to leave the meeting if necessary. So, I did not research the material covered as much as I would have liked. I will now attempt to clear up the gray areas. I must emphasize that true is easier to prove than false, so when I say "cannot", I simply mean that extensive research indicates that the procedure being discussed is not known to be possible.

The first gray area concerned when and how the Assembly linking statements such as CALL PEEK and CALL LOAD can be used. Using TI equipment, these CALL's cannot be used from console BASIC. Some confusion arose over this point. This is because all forms of BASIC except Extended BASIC appear on the screen as "TI BASIC". However, some command modules add statements to TI BASIC. These additional capabilities are stored in GROM and/or ROM chips in the command module. There are 3 GROM chips in the console and there can be 0 to 5 GROM chips in a command module. Except for Extended BASIC user-defined CALL's, all CALL's are located in GROM. In Extended BASIC, the CALL's have beginning addresses ranging from >A8FA to >C434. So, all X-BASIC CALL's are referenced from command module GROM. The GROM chips in the command modules are what allows the link to Assembly Language statements.

The second gray area dealt with the location of addresses >6000 to >7FFF. These addresses are within the command modules and therefore do not exist unless the command module is inserted. In Extended BASIC, there is 12 K of ROM that is used in this 8 K space. The area from >7000 to >7FFF is used twice by a method that is known as banking. In Mini Memory, only >6000 to >6FFF is ROM, while the area from >7000 to >7FFF is RAM. The Editor/Assembler and Disk Manager contain no RAM and no ROM, but do contain GROM.

The above information confirms that all of BASIC is in ROM or GROM and therefore cannot be over-written. This is significantly different from some other computers. For instance, the Commodore 64 loads BASIC ROM into RAM. Thus, on a Commodore, you can write over the BASIC language. I consider the TI approach to be more user-friendly. In fact, the entire TI system is heavily based on being user-friendly.

While I am rambling, we also discussed the amazing new equipment due to appear on the market soon and learned that with choices among equipment made by manufacturers such as Myarc and Corcomp, TI users will be able to access power unparalleled in home computers. In fact, I'm preparing myself for the possibility of going to a meeting and having a proud parent arrive and announce that their child now understands Einstein's theory of relativity well enough to play a new computer game called Global Thermonuclear War! Just joking! A little!

## MODEM NOTES

### TIBBS

TIBBS is a Texas Instruments Bulletin Board Service program for the TI 99/4A Home Computer.

Details: Price: \$129.95(US), plus \$3.00 for postage and insurance.

Requires: Memory Expansion, RS232, one double or two single sided disk drives, Extended Basic, and the Hayes Smartmodem 300, 300/1200 or the Novation Smart Cat.

To purchase: Investment In Knowledge, 208 S. Huntington Street, Sulphur, LA 70663, 527-0625.

Request information about the TIBBS program, write to: TIBBS, PO Box 383, Kennesaw, GA 30144. Or leave a message to SYSOP at logoff when on the Atlanta #1 "THE ORIGINAL" 404 425-5254.

### NEW BULLETIN BOARD IN SULPHUR

The TIMEHOLD is the name of the new Sulphur BBS. The phone number is 528-2533. It is operated from 5PM to 10AM the following morning weekdays. The TIMEHOLD runs 24 hours on the weekends.

### COPY CAT

DISK COPY UTILITY FOR THE TI-99/4A BY: JOHN E. BROWN.

This program requires a TI-99/4A Home Computer, Memory Expansion, at least one Disk Drive, and either an Extended Basic or Editor-Assembler Command Module.

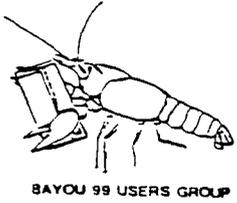
Features: Copies disks that are normally "uncopiable" (for archival and back-up purposes only, of course), Copies a single sided single density diskette in four passes, less diskette switching, and is much faster!

### USING COPY-CAT

Using the program is really very simple. Copy-Cat will ask which Disk Drive the master and copy disks are in. If the same drive is specified, COPY-CAT will display instructions to interchange the two disks when required.

Price: \$24.95

COPY-CAT will be demonstrated at the August 9th meeting.



**"NOTICE"**  
**BAYOU 99 USERS GROUP**  
**P.O. BOX 921**  
**LAKE CHARLES, LA. 70602**

**MEETING 2nd. THURSDAY EACH MONTH AT 7:00 P.M.**  
**A. A. NELSON ELEMENTARY, 1001 COUNTRY CLUB**  
**ROAD, WEST OF LAKE STREET ABOUT 2 BLOCKS ON**  
**SOUTH SIDE OF COUNTRY CLUB ROAD.**

**Learn More About Your Texas Instrument Computer**  
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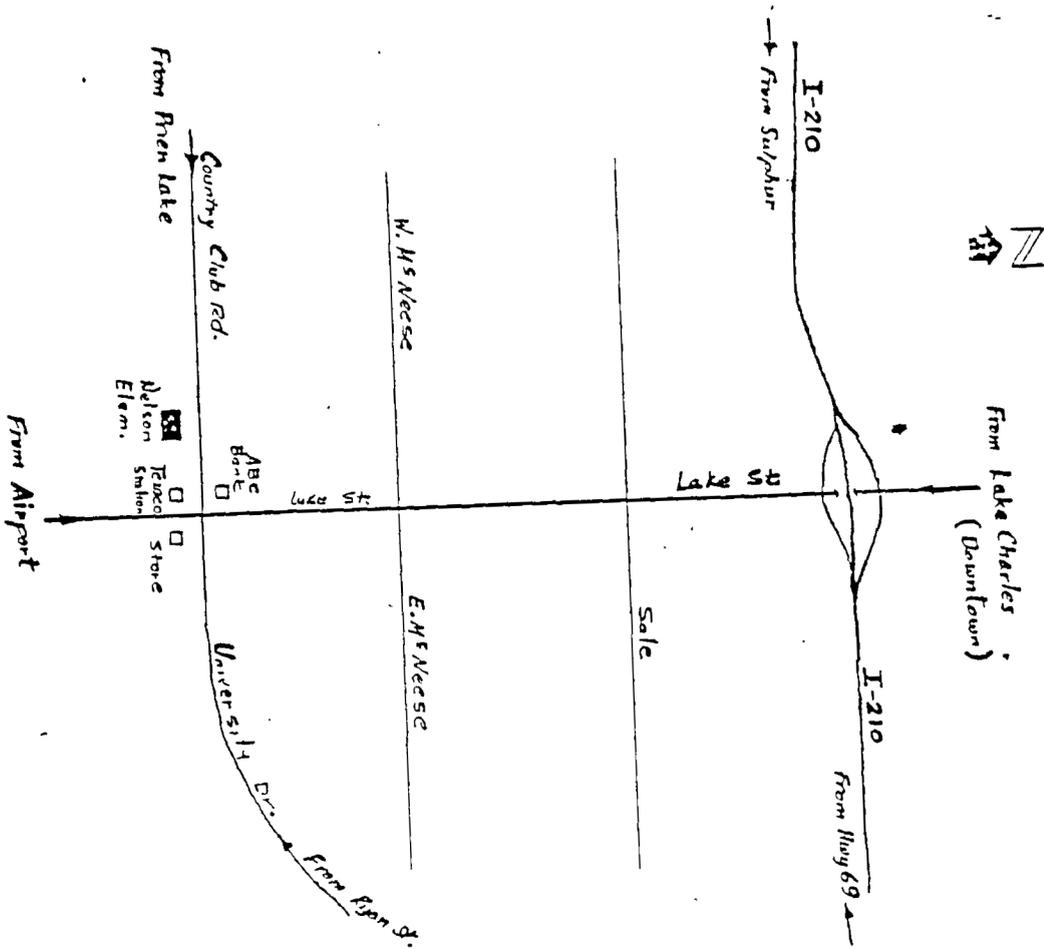
**1984 MEETING DATES**

<b>JAN</b>	<b>FEB</b>	<b>MAR</b> 8	<b>APRIL</b> 12
<b>MAY</b> 10	<b>JUNE</b> 14	<b>JULY</b> 12	<b>AUG</b> 9
<b>SEPT</b> 13	<b>OCT</b> 11	<b>NOV</b> 8	<b>DEC</b> 13

BAYOU 99 USERS GROUP

MEETING LOCATION

A. A. NELSON ELEMENTARY  
1001 COUNTRY CLUB ROAD



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